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BOTANY.—Dissanthelium, *an American genus of grasses.* A. S. HITCHCOCK, Bureau of Plant Industry.

The genus *Dissanthelium* is interesting because of the peculiar distribution of its three species and because of the confused nomenclature of the original Peruvian species.

Of the three species now referred to this genus, two are found in the Andes of Peru and Bolivia, one occurring also in Mexico, and a third is confined to islands off the southern coast of California.

The genus was originally described by Trinius in 1836, based upon a single species, *D. supinum*, from Peru, "in frigidissimis ad Cerro de Pasco (America calidiore, *Poeppig*)," and is characterized by the two awnless florets, exceeded by the equal glumes. Cerro de Pasco is north of Lima.

The California species is an annual (30 to 40 cm. tall), with flat blades, growing at low altitudes. The other two species are dwarf alpine plants with narrow often folded or involute blades, *D. calycinum* being a cespitose perennial and *D. minimum* an annual.

The type species of the genus was first described by Presl under *Brizopyrum* and was soon after transferred to *Poa* by Kunth, apparently without having seen the plant. The writer examined the type specimen of Presl's species at the herbarium of the German University in Prague and found that it was the same as the type of Trinius's species, which he examined in the herbarium of the Academy of Sciences at St. Petersburg. On grounds of priority the older name must be adopted. The second Peruvian species was first given a name by Steudel without description and the plant was distributed by Hohenacker in his exsiccatae (Lechler, Plantae Peruvianae, no. 1836) as *Vilfa macusaniensis* Steud. Later Pilger described the same species as *Dissanthelium minimum*, basing it on Weberbauer's no. 5451 from Peru.

The synonymy of the species is given below:

1. DISSANTHELIUM CALIFORNICUM (Nutt.) Benth. in Hook. Icon. Pl. III. 4: 56. *pl. 1375*. 1881. Based on the next.
   Stenochloa californica Nutt. Journ. Acad. Phila. II. 1: 189. 1848. Type from Santa Catalina Island, *Gambel*.

Dr. B. L. Robinson has kindly sent to the U. S. National Herbarium a tracing of the type specimen in the Gray Herbarium and a fragment of the inflorescence. The specimen is about 25 cm. tall but without the roots, bearing three flat, lax blades and a narrow panicle 10 cm. long. One of the spikelets in the fragment sent contains three florets. The label reads, "**Stenochloa poaeoides*. Catalina, Calif." The asterisk indicates a new species, according to Nuttall's usual method, but the specific name was changed in publication to *californica*. This species does not appear to be closely related to the other two, but it does not seem to be sufficiently different to constitute a distinct genus.

The only specimen in the U. S. National Herbarium is from San Clemente Island, California (*Trask* 324). The specimen from Tassajara Hot Springs (*Elmer* 3317), cited in Jepson's Flora of California (1:141. 1912), proves to be *Poa howellii* Vasey & Scribn.

2. **Dissanthelium calycilum** (Presl) Hitchc.
   Brizopyrum calycinum Presl, Rel. Haenk. 1: 281. 1830. Locality not known but probably Peru.
   Poa calycina Kunth, Rév. Gram. 1: Suppl. XXVIII. 1834. Based on the preceding.
   Dissanthelium supinum Trin. Linnaea 10: 305. 1836. The type from Cerro de Pasco, Peru.
   Deschampsia mathewsii Ball, Journ. Linn. Soc. Bot. 22: 60. 1885. Type from the Peruvian Andes, collected by Mathews.
   Dissanthelium sclerochloides Fourn. Mex. Pl. 2: 112. 1886. Fournier mentions two specimens, Nevada de Toluca, Hahn, and San Luis de Potosí, *Virlet* 1434, neither of which I have seen.

In the U. S. National Herbarium are the following specimens of this species: MEXICO: Nevada de Toluca, *Pringle* 4222; Ixtaccihuatl, *Purpus* 1633. PERU: Piñasniocj, *Cook & Gilbert* 1297, 1305; Casapalta, *Ball* in 1882 (a fragment from a duplicate type in the Gray Herbarium). BOLIVIA: Without locality, *Bang* 1873.

3. DISSANTHELIUM MINIMUM Pilger, Bot. Jahrb. Engler 56: Beibl. 123: 28. 1920. The type from the mountains of Peru, between Pisco and Ayacucho (*Weberbauer* 5451).
   Vilfa maeusaniensis Steud.; Lechl. Berb. Amer. Austr. 56. 1857 (*nomen nudum*). This work is primarily an account of the genus *Berberis* in South America. Appended to this is a list of the plants collected in South America by Lechler, classified according to countries, each name followed by the number of the species in Lechler's exsiccatae as issued by Hohenacker. In this case the name is under the Peruvian collection and the number is 1836.

Graminastrum macusaniense Krause, Beihefte Bot. Centralbl. 32: 348. 1914. This name is based on *Vilfa macusaniensis* Steudel. The generic name used had not previously been published. There is no generic description.

In the U. S. National Herbarium there are two specimens, one a part of the type of *D. minimum* (*Weberbauer* 5451) kindly sent by Dr. Pilger, the other a specimen of Lechler's 1836, contributed from the Vienna Herbarium by Dr. Zahlbruckner.

ZOOLOGY.—*A new* Anolis *from Haiti.* DORIS M. COCHRAN, U. S. National Museum. (Communicated by DR. L. STEJNEGER.)

In a collection of reptiles made in Haiti by the late J. B. Henderson and Dr. Paul Bartsch during their expedition of 1917, there is a specimen of a very handsome *Anolis*, which seems to represent a species as yet undescribed.

Anolis hendersoni, new species

Diagnosis.—Dorsal scales granular, the 4 or 5 median rows slightly enlarged; length of tibia much less than distance between tip of snout and ear; ventrals smooth; tail slightly compressed, nearly three times the length of head and body.

Type.—Adult male, U. S. N. M. No. 59210; Petionville, Haiti; J. B. Henderson and Dr. Paul Bartsch, collectors; April 1, 1917.

Description.—Head elongate, its greatest width contained twice in distance from ear to tip of snout; nostrils lateral, their distance from tip of snout equalling one-sixteenth of head-length; top of head with two very low, diverging frontal ridges, reaching nearly to nostrils and enclosing an elongate depression; head-scales without keels, except the 7 or 8 enlarged supraoculars, which have blunt keels; rostral rather large, its superior border curved; 6 or 7 narrow scales in a row between nostrils; supraorbital semicircles composed of 5 large scales diminishing in size posteriorly, separated from each other in the median line by a single row of small scales, and from supraoculars by one row of very small scales; occipital considerably smaller than ear-opening, separated from supraorbital semicircles by about 4 rows of scales; 6 elongate scales on canthus rostralis; superciliary ridge consisting of one extremely long shield and some granules; loreal rows 6 or 7; scales of suborbital semicircles bluntly keeled, broadly in contact with supralabials; 6 supralabials to a point below center of eye; 7 lower labials; one pair of mental shields, wider than the rostral; temporal granules about the size of laterals; a well-marked series of small scales forming the supratemporal line; a distinct dermal fold from occiput to tail, covered by 4 or 5 rows of enlarged granular scales, with the median row keeled; the remaining dorsal scales granular; the laterals extremely minute; granules on nuchal region between occiput and shoulders coarse, nearly as large as the largest dorsals; ventral scales moderately large, flat, transversely oblong or pentagonal; scales on throat and breast smaller and slightly keeled; fore legs with small keeled scales above; anterior scales of femur enlarged, keeled, gradually diminishing posteriorly and below; scales covering hands and feet above multicarinate; digital expansion wide, 35 lamellae under fourth toe and 17 under fourth finger; tail long, very slightly compressed, without verticils or serrated edge;

postanal scales well developed; gular pouch rather small, probably not very extensible; a transverse fold across throat, and two others in front of shoulder; hind limb reaches to front of eye; fore limb reaches three-fourths the distance to groin.

Dimensions.—Total length, 174 mm.; tip of snout to vent, 46 mm.; vent to tip of tail, 128 mm.; tip of snout to ear, 16 mm.; tip of snout to center of eye, 10 mm.; width of head, 8 mm.; fore leg, 17 mm.; hind leg, 36 mm.; tibia, 12 mm.; anterior border of nostril to tip of snout, 1 mm.

Coloration (in alcohol).—Top of head and neck drab; a dark lateral streak from rostral, turning to purple behind eye and suddenly narrowing above the shoulder to a black line continuing to groin; the nuchal region between these dark streaks marbled with dark bluish-gray to the shoulders, where the marblings suddenly cease, leaving the back and tail a uniform unspotted gray; below the dark lateral streak a sharply-defined white stripe beginning on upper lip below eye and continuing backwards to hind leg, bordered beneath from axilla to groin by a narrow dark line, the lower edge of which is produced into dark grayish-blue marblings, in which are anastomosing white spots; ventral surface pale blue; the lower labials white, flecked with light gray marblings; limbs pale and unspotted, with dusky bands across the digits above.

The new species apparently belongs to the same group as the Cuban *Anolis alutaceus* Cope, but it can be immediately distinguished from *A. alutaceus* by its much longer snout and its distinctive coloration. A long-snouted species from Navassa, *A. longiceps* Schmidt, may be related to *A. hendersoni*. The distance of the nostril from the tip of the snout is one-fifth the headlength in *A. longiceps*, and one-sixteenth the headlength in *A. hendersoni*, and so there is no possibility of confusing the two. The new species is named after the late J. B. Henderson, in recognition of the invaluable services he rendered to science during an all-too-short career. It is fitting that this exceptionally handsome *Anolis*, conspicuous even in a genus of unusual daintiness and beauty, should perpetuate his name in the region which he loved to explore.

ORNITHOLOGY.—*Descriptions of New East Indian Nectariniidae.*

HARRY C. OBERHOLSER, Biological Survey.

Study of the collection of East Indian sunbirds in the United States National Museum has brought to light a number of new forms. These are described in the following pages.

Measurements are all given in millimeters, and have been taken as in the author's previous papers. The names of colors are based on Ridgway's *Color standards and color nomenclature.*

Arachnothera affinis heliophilus, subsp. nov.

Subspecific characters.—Similar to *Arachnothera affinis affinis* from Java, but smaller; upper surface more greenish (less yellowish); and the anterior lower parts less distinctly streaked.

Description.—Type, adult male, No. 179384, U. S. Nat. Mus.; Loh Sidoh Bay, northwestern Sumatra, November 6, 1901; Dr. W. L. Abbott. Upper parts yellowish citrine; tail fuscous black, the basal three-fourths of middle rectrices and the basal two-thirds of remaining feathers, yellowish dark citrine, and subterminal spots on four outer rectrices creamy white; wings fuscous, edged with yellowish citrine; lores, sides of head and of neck, like the back, but the auriculars somewhat grayish; lower parts between light olive gray and light grayish olive, streaked with fuscous, and on the medial posterior portion with olive buff, but the middle of the abdomen plain olive buff; crissum critine drab, the feathers tipped with olive buff to deep olive buff; lining of wing pale brownish, outwardly mixed with fuscous and colonial buff; axillars olive buff.

Measurements of type.—Wing 81 mm.; tail, 48; exposed culmen, 33; tarsus, 18; middle toe without claw, 12.

While this new race is intermediate between *Arachnothera affinis affinis* of Java and *Arachnothera affinis modesta* of the Malay Peninsula, it is different enough from both to be separately recognized. It may be distinguished from the latter by its smaller size, darker upper surface, and rather darker lower parts. It is the form inhabiting most if not all of Sumatra.

Arachnothera chrysogenys astilpna, subsp. nov.

Subspecific characters.—Similar to *Arachnothera chrysogenys chrysogenys*, from eastern Sumatra, but upper parts darker, duller, and less yellowish (more grayish); lower surface rather darker.

Description.—Type, adult male, No. 173289, U. S. Nat. Mus.; Bok Pyin, Tenasserim, February 14, 1900; Dr. W. L. Abbott. Upper parts olive citrine; tail dark citrine, the shafts of the feathers fuscous; wings fuscous, with edgings of citrine and dark citrine; the inner lesser coverts olive citrine; supra-ocular streak and auricular patch, lemon chrome; remaining portions of sides of head and of neck like the back in color; anterior lower parts warbler green, but streaked with the grayish of the base of the feathers, which in places shows through; sides and flanks olive yellow; the middle of abdomen and middle of lower breast, wax yellow; crissum similar, but inclining a little to citrine; lining of wing light fuscous, washed with straw yellow; "feet fleshy brown; bill dark horn brown, yellow along commissure."

Measurements of type.—Wing, 81 mm.; tail, 39.5; exposed culmen, 36.5; tarsus, 19; middle toe without claw, 13.

This race occupies apparently all of the Malay Peninsula.

Arachnothera longirostris antelia, subsp. nov.

Subspecific characters.—Similar to *Arachnothera longirostris longirostris*, from Burma, but upper surface duller, less golden (more greenish), and rather darker; yellow of posterior lower parts lighter, brighter, and more greenish.

Description.—Type, adult male, No. 169920, U. S. Nat. Mus.; Trang, Lower Siam, January 1, 1899; Dr. W. L. Abbott. Upper parts rather dark citrine, the centers of the feathers on the pileum fuscous, their edgings dark citrine; tail dark fuscous, edged with dark citrine, and tipped (except on the middle pair of rectrices) with brownish white, most broadly on the outer feathers; wings fuscous, the quills edged with citrine; coverts margined with the color of the back; lores and subocular streak, brownish white;

auriculars mouse gray; sides of neck like the back; chin and throat rather light smoke gray; breast and abdomen, dull strontian yellow, washed with yellowish citrine except on the middle of the abdomen; crissum dull barium yellow; lining of wing white, the axillars washed with barium yellow.

Measurements of type.—Wing, 66 mm.; tail 44.5; exposed culmen, 36.5; height of bill at base, 5; tarsus, 15; middle toe without claw, 10.

This race extends geographically from southern Tenasserim to the southern end of the Malay Peninsula. It differs from *Arachnothera longirostris melanchima* of eastern Sumatra in its lighter, more yellowish (less greenish) upper parts, and in the more golden hue of the yellow of the under surface.

Arachnothera longirostris heliocrita, subsp. nov.

Subspecific characters.—Resembling *Arachnothera longirostris antelia*, from the Malay Peninsula, but with bill smaller; upper parts darker, duller, more grayish or brownish, the olive green areas more greenish (less yellowish) in tone; and yellow of posterior lower parts slightly lighter and somewhat less extensive.

Type.—Adult male, No. 170469, U. S. Nat. Mus.; Selitar, 9 miles from the town of Singapore, Singapore Island, Federated Malay States, May 17, 1899; Dr. W. L. Abbott.

Measurements of type.—Wing, 67 mm.; tail, 44.5; exposed culmen, 32.5; height of bill at base, 5; tarsus, 16; middle toe without claw, 10.

This race has been noted only on the island of Singapore. It may be distinguished from *Arachnothera longirostris melanchima*, of eastern Sumatra, by its shorter bill; duller, less greenish (more grayish or brownish) upper parts; and the somewhat paler, more golden (less greenish) tint of the yellow of the posterior lower surface.

Anthreptes malacensis heliolusius, subsp. nov.

Subspecific characters.—Similar to *Anthreptes malacensis wiglesworthi*, from Sulu Island, but much larger.

Description.—Type, adult male, No. 201279, U. S. Nat. Mus.; Basilan Island, Philippine Islands, January 31, 1906; Dr. E. A. Mearns. Pileum, cervix, back, and sides of neck, iridescent metallic bottle green with some purplish reflections; rump and upper tail-coverts, metallic royal purple; tail fuscous black, the middle feathers more blackish, and with metallic purple sheen, all the rectrices edged with metallic purple and metallic bottle green; wings fuscous black, with the quills edged with orange citrine; middle coverts, edges of greater coverts, and the scapulars, chestnut; lesser coverts metallic royal purple; sides of head citrine, the upper part of these narrowly burnt sienna; chin, throat, and jugulum, tawny, bordered laterally with burnt sienna; breast deep wax yellow; abdomen light dull strontian yellow; crissum olive yellow; sides and flanks, light yellowish olive; lining of wing pale grayish brown, washed with citrine.

Measurements of type.—Wing, 68 mm.; tail, 44; exposed culmen, 16; tarsus, 17; middle toe without claw, 10.5.

This form is intermediate between *Anthreptes malacensis wiglesworthi* and *Anthreptes malacensis chlorigaster*. The female is similar to the female of *Anthreptes malacensis bornensis* Riley, but is of a darker, more bronzy green above, and is much duller, more olivaceous below.

Anthreptes malacensis heliocalus, subsp. nov.

Subspecific characters.—Similar to *Anthreptes malacensis heliolusius*, from Basilan Island, but tail and exposed culmen longer; male somewhat brighter and of a more golden yellowish below; female less bronzy above, particularly on rump, and with the golden yellow of the middle of abdomen brighter.

Type.—Adult male, No. 113786, U. S. Nat. Mus.; Great Sanghir Island, Sanghir Islands, June 30, 1886; Dr. Platen.

Measurements of type.—Wing, 71 mm.; tail, 48; exposed culmen, 18; tarsus, 17.5; middle toe without claw, 11.

Anthreptes simplex simplicior, subsp. nov.

Subspecific characters.—Similar to *Anthrepetes simplex simplex*, from Sumatra, but with lower parts, particularly the breast, sides, and flanks, much paler, more grayish (less greenish); and upper surface less golden (more greenish).

Description.—Type, adult male, No. 178268, U. S. Nat. Mus.; Central Borneo, 1899; Dr. A. W. Nieuwenhuis; original number 596. Forehead metallic dark green; upper parts dark citrine, slightly washed on the occiput with dark gray; tail citrine, duller terminally, the shafts of the feathers fuscous; wings fuscous, the edgings of the quills citrine, their superior coverts edged with dark citrine; auriculars mouse gray; sides of neck like the back; chin and throat buffy grayish white; rest of the lower parts light grayish olive, washed with dull yellowish, except the middle of the abdomen and the crissum, which are dull grayish reed yellow; lining of wing brownish white, the edge of wing more brownish and mixed with the color of the crissum.

Measurements of type.—Wing, 63 mm.; tail, 52; exposed culmen, 14; tarsus, 14.5; middle toe without claw, 9.

This well-differentiated race is apparently confined to Borneo.

Chalcostetha calcostetha heliomarpta, subsp. nov.

Subspecific characters.—Similar to *Chalcostetha calcostetha calcostetha*,[1] from Java, but with bill averaging longer; in the female, with upper parts, throat, jugulum, and abdomen paler, and whitish tips on the rectrices larger.

Description.—Type, adult female, No. 179390, U. S. Nat. Mus.; Simalur Island, western Sumatra, December 1, 1901; Dr. W. L. Abbott. Pileum between neutral gray and mouse gray; remainder of upper parts rather greenish deep olive, the middle portion of the upper tail-coverts dark brown; tail brownish black, the middle feathers and the outer webs of the others with a metallic bluish green sheen, and all but the middle pair broadly tipped with white; wings fuscous, their quills and coverts, excepting the lesser series, edged externally with citrine, the lesser coverts with the green of the back; sides of head brownish gray; sides of neck like the back; chin and throat brownish white; jugulum olive buff, washed with yellowish; middle of breast, together with the upper abdomen, between wax yellow and citrine yellow; lower abdomen primrose yellow; sides and flanks, dull olive buff, washed with pale yellow; crissum grayish white, washed slightly with pale yellow; lining of wing white, washed with pale yellow; edge of wing pale colonial buff.

[1] *N[ectarinia]. calcostetha* Jardine, Nat. Hist. Nectariniadae, 1843, p. 263 ("E. Ind. Islands.") Since this, the earliest name for this species, the *Chalcostetha insignis* of most authors, has not, in "E. Ind. Islands," a type locality definite enough for modern nomenclatural purposes, we designate Java as the type locality.

Measurements of type.—Wing, 57.5 mm.; tail, 45.5; exposed culmen, 19; tarsus, 14.5; middle toe without claw, 10.

So far as known, this race is confined to the island of Simalur. It is distinguishable from *Chalcostetha calcostetha pagicola* by its somewhat larger size, and, in the female, by lighter throat and darker abdomen.

Cinnyris ornata heliobleta, subsp, nov.

Subspecific characters.—Similar to *Cinnyris ornata*[2] *microleuca* from Pulo Taya, off southeastern Sumatra, but somewhat smaller; the male with upper surface darker, more greenish (less golden); yellow of posterior lower surface paler, more greenish (less golden), and flanks more greenish; the female above less golden in hue, and below paler, less golden, posteriorly.

Description.—Type, adult male, No. 175122, U. S. Nat. Mus.; Tanjong Dungun, Trengganu, Federated Malay States, September 21, 1900; Dr. W. L. Abbott. Upper parts dark citrine; tail brownish black, the three outer rectrices tipped with dull white, most broadly on the outermost; wings fuscous, the quills and all the coverts, except the primary series, narrowly margined externally with dark citrine; lores of the same color as the crown; center of chin, of throat, and of jugulum, raisin black; sides of chin, of throat, and of jugulum, together with the anterior part of the checks, metallic indigo blue; remainder of the sides of head, and the sides of neck, dark citrine; a narrow, somewhat broken, line across the breast at the posterior edge of the raisin black jugulum, prouts brown; pectoral tufts cadmium yellow; breast and abdomen, strontian yellow, the crissum paler; sides and flanks, wax yellow, washed with olivaceous; lining of wing white, washed with barium yellow; bill and feet black.

Measurements of type.—Wing, 51 mm.; tail, 35; exposed culmen, 17; tarsus, 13.5; middle toe without claw, 8.5.

Cinnyris ornata proselia, subsp. nov.

Subspecific characters.—Resembling *Cinnyris ornata heliobleta,* from the Federated Malay States, but somewhat smaller; male with upper parts darker, more golden olive, and yellow of posterior lower parts darker, more golden; female darker, more golden (less grayish) above, and darker, more golden posteriorly below.

Type.—Adult male, No. 178889, U. S. Nat. Mus.; Car Nicobar Island, Nicobar Islands, January 21, 1901; Dr. W. L. Abbott.

Measurements of type.—Wing, 49 mm.; tail, 34.5; exposed culmen, 16.5; tarsus, 14.5; middle toe without claw, 8.5.

This form is apparently confined to the island of Car Nicobar. It differs from *Cinnyris ornata klossi* (Richmond), from the other Nicobar Islands, in its smaller size; also, in the male, in much less golden (more grayish) upper surface, and rather lighter posterior lower parts; and, in the female, in the less golden hue of the upper parts, and lighter, less golden tint of the yellow of the posterior lower surface. It is, of course, readily distinguishable from *Cinnyris ornata blanfordi* (Baker)[3] by its much smaller bill.

[2] For the change of the name of this species from *Cinnyris pectoralis* to *Cinnyris ornata, cf.* Oberholser, Smithson. Misc. Coll., LX, No. 7, October 26, 1912, p. 18, footnote.

[3] *Cyrtostomus pectoralis blanfordi* Baker, Bull. Brit. Ornith. Club, XLI, No. CCLVI, January 27, 1921, p. 71 ("Kondol Is., Nicobars").

Mention, in passing, might be made of the fact that *Cinnyris ornata klossi* Richmond[4] is apparently a recognizable race, differing in both sexes from *Cinnyris ornata heliobleta*, of the Malay Peninsula in more golden (less grayish) upper parts, and darker more golden lower surface.

Cinnyris ornata heliomanis, subsp. nov.

Subspecific characters.—Similar to *Cinnyris ornata ornata*,[5] from Java, but in the male averaging more grayish (less golden) above, and slightly paler on posterior lower parts; in the female, with a more golden tinge to the olive of the upper surface, and with more deeply colored and more golden-hued posterior under surface.

Type.—Adult male, No. 182683, U. S. Nat. Mus.; Salintukan, eastern Borneo, March 13, 1913; H. C. Raven.

Measurements of type.—Wing, 48.5 mm.; tail, 32.5; exposed culmen, 16; tarsus, 13; middle toe without claw, 8.

Cinnyris ornata heliozeteta, subsp. nov.

Subspecific characters.—Similar to *Cinnyris ornata heliomanis*, from Borneo, but much larger; in the male, with upper surface more golden (less greenish), and posterior lower parts of a deeper, more golden yellow.

Type.—Adult male, No. 180616, U. S. Nat. Mus.; Tanjong Rengsam, Banka Island, southeastern Sumatra, May 21, 1904; Dr. W. L. Abbott.

Measurements of type.—Wing, 55 mm.; tail, 37; exposed culmen, 17; tarsus, 13; middle toe without claw, 10.

Aethopyga siparaja heliotis, subsp. nov.

Subspecific characters.—Similar to *Aethopyga siparaja cara*, from Tenasserim, but larger, and tail more greenish.

Description.—Type, adult male, No. 173263, U. S. Nat. Mus.; Domel Island, Mergui Archipelago, February 23, 1900; Dr. W. L. Abbott. Forehead and fore part of crown, metallic invisible green; lores black; sides of head and of neck, together with occiput, cervix, scapulars, upper back, and lesser wing-coverts, between carmine and nopal red; lower back brownish slate; rump between lemon chrome and light cadmium; upper tail-coverts metallic diamine green, the middle rectrices dull metallic purple, margined with metallic diamine green; rest of tail brownish black, margined externally with metallic purple; wings dark hair brown, the primaries, secondaries, greater and middle coverts, narrowly margined with dark citrine; chin, throat, and jugulum, between scarlet red and nopal red; a long submalar streak metallic prussian blue; posterior lower parts rather light neutral gray; middle of breast dark brownish, the flanks slightly washed with olivaceous; lining of wing dull white; edge of wing hair brown, slightly washed with dull red.

Measurements of type.—Wing, 55.5 mm.; tail, 48.5; exposed culmen, 16; tarsus, 14; middle toe without claw, 13.5.

Aethopyga siparaja heliophiletica, subsp. nov.

Subspecific characters.—Similar to *Aethopyga siparaja siparaja*, from Sumatra, but larger; and with less extensively blackish posterior lower parts.

[4] Proc. U. S. Nat. Mus., XXV, September 17, 1902, p. 297 ("Great Nicobar" [Island, Nicobar Islands]).

[5] Type locality, Java.

Type.—Adult male, No. 179405, U. S. Nat. Mus.; Pulo Bangkaru, Banjak Islands, Barussan Islands, western Sumatra, January 18, 1902; Dr. W. L. Abbott.

Measurements of type.—Wing, 51.5 mm.; tail, 45; exposed culmen, 15.5; tarsus, 13.3; middle toe without claw, 13.3.

This race is sufficiently different from the four other subspecies found on the various islands of the Barussan chain to be worthy of recognition by name. From *Aethopyga siparaja niasensis*, of Nias Island, it may be distinguished as from *Aethopyga siparaja siparaja;* from *Aethopyga siparaja tinoptila*, of Simalur Island, by somewhat larger size, less extensively blackish, and less purely grayish (more olivaceous) posterior lower parts; and paler anterior upper and lower parts.

Aethopyga siparaja heliogona, subsp. nov.

Subspecific characters.—Similar to *Aethopyga siparaja eupogon* Cabanis, from Borneo, but smaller, and male with more extensively blackish, and less olivaceous (more purely grayish) posterior lower parts.

Type.—Adult male, No. 219086, U. S. Nat. Mus.; Depok, Java, March 29, 1909; William Palmer.

Measurements of type.—Wing, 49.5 mm.; tail, 41; exposed culmen, 14.5; tarsus, 13.5; middle toe without claw, 13.5.

With the addition of the above described races, the forms of *Aethopyga siparaja* now apparently recognizable are as follows:

1.—*Aethopyga siparaja siparaja* (Raffles). Sumatra to southern Malay Peninsula.

2.—*Aethopyga siparaja tinoptila* Oberholser. Pulo Siumat and Simalur Island, Barussan Islands, western Sumatra.

3.—*Aethopyga siparaja melanetra* Oberholser. Pulo Lasia and Pulo Babi, Barussan Islands.

4.—*Aethopyga siparaja heliophiletica* Oberholser. Banjak Islands, Barussan Islands.

5.—*Aethopyga siparaja niasensis* Hartert. Nias Island, Barussan Islands.

6.—*Aethopyga siparaja photina* Oberholser. Pagi Islands, Barussan Islands.

7.—*Aethopyga siparaja heliogona* Oberholser. Java.

8.—*Aethopyga siparaja eupogon* Cabanis. Borneo.

9.—*Aethopyga siparaja ochropyrrha* Oberholser. Anamba Islands.

10.—*Aethopyga siparaja lathami* (Jardine).[6] Central Malay Peninsula, from about 10° north latitude to about 5° north latitude.

11.—*Aethopyga siparaja heliotis* Oberholser. Mergui Archipelago.

12.—*Aethopyga siparaja nicobarica* Hume. Nicobar Islands.

13.—*Aethopyga siparaja cara* Hume. Tenasserim and Siam.

14.—*Aethopyga siparaja viridicauda* Rothschild. Shan States.

15.—*Aethopyga siparaja andersoni* Oates. Burma.

16.—*Aethopyga siparaja seheriae* (Tickell). Bengal to Assam.

17.—*Aethopyga siparaja miles* (Hodgson). Nepal.

18.—*Aethopyga siparaja goalpariensis* (Royle). Northwestern Himalaya.

[6] *Nectarinia Lathami* Jardine, Nat. Hist. Nectariniadae, 1843, p. 233 ("some part of Continental India"). This was described from a specimen the exact locality of which is unknown, but the characters fit the bird from the Central Malay Peninsula. We therefore designate the Malay Penisula at 7° north latitude as the type locality.

MINERALOGY.[1]—Argentojarosite, *a new silver mineral.* (Preliminary note.) WALDEMAR T. SCHALLER, Geological Survey.

The name argentojarosite is given to a new silver mineral from the Titanic Standard mine at Dividend, Utah. It forms small hexagonal scales of a yellow to brown color, and optically is uniaxial, negative. The mineral closely resembles jarosite, and in fact has been mistaken for it. In composition the new mineral conforms to the general formula of the minerals of the jarosite group and the mean of several analyses shows that its composition is about as follows: Ag_2O, 18 per cent; Fe_2O_3, 43 per cent; SO_3, 28 per cent; H_2O, 10 per cent. A little K_2O is present, also some PbO. This composition yields the formula: $Ag_2O \cdot 3Fe_2O_3 \cdot 4SO_3 \cdot 6H_2O$.

The mineral apparently is sufficiently abundant to be mined as an ore. It is the first silver mineral recorded containing oxygen. A full description of argentojarosite is in preparation.

[1] Received May 16, 1923.

PROCEEDINGS OF THE ACADEMY AND AFFILIATED SOCIETIES

BIOLOGICAL SOCIETY OF WASHINGTON

645TH MEETING

The 645th regular meeting was held in the lecture room of the Cosmos Club Jan. 6, 1923, at 8.05 p.m., with President HITCHCOCK in the chair and 75 persons present.

The report of the treasurer, F. C. LINCOLN, was read and accepted. It showed a balance of $5.02 in the general fund and $840 in the publication fund.

Dr. A. WETMORE, for the auditing committee, reported that the books of the treasurer had been audited and found correct. His report was accepted.

The President announced the membership of the Committee on Communications as follows: E. A. GOLDMAN, Chairman, C. E. CHAMBLISS, H. E. EWING, W. R. MAXON, H. C. OBERHOLSER, S. A. ROHWER. He also announced the membership of the Committee on Zoological Nomenclature as follows: G. S. MILLER, Jr., Chairman, P. BARTSCH, S. A. ROHWER.

Short notes.—Major E. A. GOLDMAN mentioned the symposium on geographical distribution at the recent A. A. A. S. meeting in Cambridge, referring especially to a paper by C. T. BRUES on *Peripatus* and its allies in the southern hemisphere.

The regular program was as follows:

E. J. REINHARD: *Notes on the life history and habits of the solitary wasp, Philanthus gibbosus* (illustrated by lantern slides). The nesting and other habits of this wasp were described and illustrated by colored slides. The paper will appear in full in the Smithsonian Report.

VERNON BAILEY: *Beaver habits and beaver farming* (illustrated by lantern slides). The habits of beavers were discussed on the basis of the speaker's experience in various parts of the country, and illustrated by colored slides. The duration of beaver dams after abandonment, sometimes reaching a century or more, was emphasized. The importance of beaver farming to supply the demand for furs was also considered.

S. F. BLAKE, *Recording Secretary.*

646TH MEETING

The 646th regular meeting was held in the lecture room of the Cosmos Club, Jan. 20, 1923, at 8:05 p.m., with President HITCHCOCK in the chair and 83 persons present.

Dr. AFRANIO DO AMARAL, of the Museum of Comparative Zoology, Cambridge, Mass., was elected to membership.

The President announced an invitation extended to the Society by the Regents and Secretary of the Smithsonian Institution to a meeting in Commemoration of the centenary of the birth of Spencer Fullerton Baird, to be held in the auditorium of the National Museum, Saturday evening, February 3, the acceptance of which was voted.

Dr. L. O. HOWARD described an interesting new case of *phoresie* in the Belgian Congo, between a proctotrypid parasite and a Coreid bug. The female parent is carried about on the head of the female bug and when the latter deposits her eggs, the parasite instantly places her egg in the egg of

the bug. If the parasite finds herself on the head of a male bug, she jumps to the female bug when the sexes couple. This interesting observation was recently made by an Entomologist in the Belgian Congo, Lieut. J. GHESQUIÈRE.

Miss P. L. BOONE directed attention to the early flowering of trailing arbutus, pansy violets, golden club, saxifrage, and skunk cabbage near Hyattsville, Md.

HORACE M. ALBRIGHT, Superintendent, Yellowstone National Park: *Protecting native wild life in Yellowstone National Park* (illustrated by lantern slides and moving pictures). Park scenery and conditions and the larger animals were described and illustrated by still and moving pictures. The desirability of adding to Yellowstone National Park the region about the sources of the Yellowstone River and Teton Range was advocated. The larger game animals were said to be wintering in excellent condition. The number of buffaloes in the introduced herd was reported to be about 578, in the wild herd about 150. The antelope numbered about 350. Of several hundred mountain sheep occurring in the Park one hundred and forty-two had recently been seen. The sheep were reported to have entirely recovered from scab with which Park animals became infested a few years ago.

FRANK R. LILLIE, National Research Council: *The problem of the sex hormones.* The rôle of the hormones in the differentiation of sex was discussed. The precision with which hormones operate was stressed, sex being regarded as inherited like other characters, and the action of sex hormones regarded as intensifying the zygotic factors of the same sign and vice versa. Sex is determined at the time of fertilization in accordance with the chromosome complex, and not in accordance with environmental factors. Lipschutz's view that an embryo is essentially asexual until its sex is impressed upon it by hormones of the male or female type was shown to be untenable. The speaker also expressed the view that the effects of sex hormones are strictly limited in the case of the free-martin in cattle, though it is possible that they may vary in different species. The paper was discussed by A. A. DOOLITTLE. The principal data are included in a paper to be published in the Biological Bulletin for February, 1923.

E. A. GOLDMAN, *Recording Secretary, protem.*

647TH MEETING

The 647th meeting was held jointly with the Washington Academy of Sciences and affiliated societies in the auditorium of the National Museum February 3, 1923, in commemoration of the centenary of the birth of SPENCER F. BAIRD.

648TH MEETING

The 648th regular meeting was held in the lecture room of the Cosmos Club, February 17, 1923, at 8.10 p.m., with President HITCHCOCK in the chair and 91 persons present. Mr. R. C. SHANNON was elected to membership.

The President announced the appointment of E. A. CHAPIN and H. C. OBERHOLSER as additional members of the Committee on Zoological Nomenclature.

Mr. M. B. WAITE directed attention to an article in the Geographical Journal for January, 1923, describing an ascent of Mount Kilimanjaro. Interesting features were mentioned including the perfect volcanic cone with an ice cap inside of crater, and the distribution of plants in belts at different altitudes.

Dr. L. O. HOWARD stated that on Tuesday, last, he addressed a meeting of a new biological society at Riverton, N. J., the Japanese Beetle Club. The aim of this society is to consider many questions in biology, the only restriction being that nothing shall be said about the Japanese beetle.

Dr. T. S. PALMER referred to the death, just announced in the press, of B. E. FERNOW, former Forester of the United States at 72 years of age, and recalled his active interest in the affairs of the Biological Society.

H. L. SHANTZ: *Plant and animal life in Africa.* The vegetation of Africa varies from the absolute desert to luxuriant tropical rain forest. In a very general way the vegetation may be arranged in almost concentric bands around the tropical rain forest of the Congo and Guinea Coast. We pass outward from this tropical forest through series of grasslands and savannas and dry forest to the desert proper. In East Africa the occurrence of highland modifies the vegetation and gives rise to a temperate grassland and temperate forest. Lying beyond the desert in both the north and the south is a brushland of the Mediterranean or Californian type. In a general way the fauna of Africa may be correlated with vegetation. The greatest herds of wild game, especially the great wealth of herbivora, and even carnivora, which feed upon the heribivora, are found in the same desert grasslands and the rather luxuriant savanna adjacent. In the dense tropical forests many of the herbivora are entirely lacking. The elephant ranges from the semi-desert to the dense tropical forest, and from sea level to timber line. Distribution of many of the other animal types is restricted and can be correlated very closely with vegetation types. Probably the sharpest faunal line is that between tropical rain forest and high grass savanna which surrounds it.

H. S. BERNTON, M.D.: *Biological aspects of hay fever.* A brief outline of the historical features of the disease was presented. The fact that the pollens of wind pollinated plants were responsible for symptoms was emphasized and the phenomena of "group reaction" was discussed. Mention was made of the hereditary tendency of the disease which follows the Mendelian law. The clinical features were enumerated and the theories underlying the mechanism of the disease were also presented. The modern treatment is that of active immunization, wherein a solution of pollen protein is administered subcutaneously in gradually increasing doses. Twenty per cent are entirely relieved of symptoms and ten per cent are not benefited. The opinion was expressed that the imperfect method of extraction and especially the method of preserving the antigenic content of the pollen solutions might account for some failures in the treatment. A preliminary report of the results of feeding experiments with powdered ragweed plant was also given.

E. A. GOLDMAN, *Recording Secretary, pro tem.*

649TH MEETING

The 649th regular meeting was held in the lecture room of the Cosmos Club March 3, 1923, at 8 p.m., with President HITCHCOCK in the chair and 54 members present. Miss ANNA E. JENKINS, Bureau of Plant Industry, was elected to membership.

Under *Short Notes*, Dr. R. W. SHUFELDT read a letter and showed literature relating to the work of the British Royal Society for the Protection of Birds. He also exhibited a new work "Australian Nature Studies," by J. A. LEACH of Melbourne.

Dr. T. S. PALMER mentioned that Prince MAXIMILIAN VON NEUWIED began his exploring trip up the Missouri River on March 1, 1833, ninety years ago, and gave a short account of his life and work.

Dr. HUGH M. SMITH gave some notes on the flowering of *Cercis*.

F. V. COVILLE: *The effect of aluminum sulphate on rhododendron seedlings.* Rhododendrons do not thrive in ordinary fertile garden or greenhouse soil, but they grow with great luxuriance in sand mixed with peat, with rotting wood, or with half-rotted leaves. Although both these types of soil contain an abundance of plant food, the rhododendrons thrive in the peat and sand mixture because its chemical reaction is acid, and they die in the ordinary fertile garden soil because its reaction is neutral or alkaline. Experiments begun in March, 1921, show that the application of aluminum sulphate to ordinary fertile garden or greenhouse soil changes its reaction from neutral or alkaline to acid, and that after this treatment rhododendrons will thrive in it almost as well as in a natural acid soil of peat and sand. The paper will be published in full as Bulletin 1 of the newly formed American Horticultural Society, Washington, D. C.

PERLEY SPAULDING: *The biology of* Pinus strobus. The speaker gave notes on *Pinus strobus* as seen in Europe only. It is essentially an ornamental except for small areas of forest in Switzerland, eastern France and Germany. The blister rust caused by *Cronartium ribicola* is its worst enemy and is exterminating the species in Europe, as reforestation with it is discontinued. Where the blister rust has not attacked it, its timber production is of high value. Rabbits prevent its reproduction naturally in Great Britain, by eating the young seedlings. Jays and squirrels feed on the seeds, limiting reproduction. Calcareous soils produce yellow-foliaged, sickly trees. The species is very hardy and quite free from snow breakage. *Fomes annosus* attacks it rarely. *Peziza calycina* occasionally attacks it. *Armillaria mellea* is a serious enemy especially on land previously occupied by hard wood species.

J. M. ALDRICH: *The Canadian life zone as indicated by insect distribution.* Of the three northern life zones recognized by Merriam and Bailey, the Canadian is the richest. It contains thousands of species of insects, no order being better represented than the Diptera. From the beginning it has proved difficult to fix the limits of the Canadian by any satisfactory list of typical plants or animals, the species generally shading off into the Transition or continuing up into the Hudsonian. The speaker found this difficulty also in the insects, citing numerous cases of species spreading beyond the true Canadian limits. A number of species of Diptera were cited which confirm in their appearance at points remote from each other the existence of a real life zone, though with vague boundaries. The scavenger flies were used to illustrate the subject further.

H. C. OBERHOLSER: *Notes on birds of the District of Columbia.* The speaker mentioned a number of the rarer birds of the District of Columbia, illustrating his talk by colored lantern slides of the species discussed.

650TH MEETING

The 650th meeting was held in the auditorium of the Interior building March 14, 1923, at 8 p.m., jointly with Washington Academy of Sciences, the Geological Society, and the Botanical Society. The meeting was devoted to a discussion of the fossil swamp deposit at the Walker Hotel site.

The speakers were C. K. WENTWORTH, E. BROWN, E. W. BERRY, ALBERT MANN, and LAURENCE LA FORGE.

651ST MEETING

The 651st meeting of the Biological Society was held in the lecture room of the Cosmos Club, March 17, 1923, at 8 p.m., with President HITCHCOCK

in the chair and 88 persons present. W. H. CHEESMAN and CHARLES P. HARTLEY were elected to the Society.

Under *Short Notes*, Dr. R. W. SHUFELDT mentioned that "Nature Magazine," a Washington publication which was started in January, 1923, already has 11,000 subscribers.

Mr. VERNON BAILEY spoke of the travels of Prince MAXIMILIAN in North America and his work among the Mandan Indians.

J. C. MERRIAM: *The cats of Rancho La Brea* (lantern). In the fauna of the Pleistocene asphalt beds of Rancho La Brea carnivorous mammals and birds make up a very large percentage of the great accumulation of remains. This is due in considerable measure to the attraction of flesh-eating and carrion-eating animals to the asphalt beds by the struggles of animals recently entrapped or by the carcasses of those partly buried in the brea. The body of one animal may have served as a lure to many carnivores, each of which in turn possibly attracted many others. In some parts of the deposits the carnivores have greatly overbalanced in number the total accumulation of remains from all other groups. Although the fossil wolves of Rancho La Brea are individually the most numerous of the carnivorous animals, the relative abundance of cats is almost unbelievable. Of the great sabre-tooth tiger many more than one thousand specimens are known in the several available collections. The sabre-tooth is not only the most numerous of the forms found but gives a representation of this group greater than all the other collections of the world combined. The great lion-like form, *Felis atrox*, is less abundant than the sabre-tooth but is known by something more than fifty specimens. This is the largest of all the cats. It is fortunately known by material which makes possible the study of the entire skeleton in perfectly preserved condition. Other felines include one or more pumas and at least one species of wild cat. This paper was discussed by Messrs. BAILEY, HOWARD and SHUFELDT.

F. A. MCCLURE, Canton Christian College: *Observations of a plant collector on the island of Hainan* (lantern). In the fall of 1921 and the spring of 1922 the speaker made two expeditions to the island. On these trips he increased the known flora of Hainan from 350 to about 1350 species (of which over 75 were new to science). He was also successful in making the first ascent to the summit of the highest peak of the Five Finger Mountains, altitude 7,300 feet. The topography and native tribes of the island were described and illustrated by numerous colored lantern slides. The following new plants worthy of special notice for economic reasons were mentioned: *Taractogenos hainanensis*, *Ficus palmatiloba*, and *Schizostachyum hainanense*.

S. F. BLAKE, *Recording Secretary*.

BOTANICAL SOCIETY

163D MEETING

The 163d meeting of the Botanical Society was held at the Cosmos Club at 8 p.m. Tuesday, December 5, 1922, with Dr. L. C. CORBETT in the chair.

The following members were elected: WILBUR BROTHERTON, LEWIS T. LEONARD, CULROSS PEATTIE, Dr. ROBERT. D. RANDS, and Dr. J. R. SCHRAMM.

Brief Notes and Reviews of Literature: Dr. Hitchcock presented the book, *The mind in the making*, by JAMES HARVEY ROBINSON. Mr. WAITE showed acorns of the bur oak, *Quercus macrocarpa*. This oak is a native of the

Mississippi Valley. He called attention to the large size and enormous spread of the branches of this oak. One of the finest trees on the Department of Agriculture grounds in Washington is a planted bur oak. Dr. BARTSCH called attention to the fact that there is a large bur oak on the Hygienic Laboratory grounds. Prof. CORBETT called attention to the fact that this oak had pushed its way up into the dry northwest. He became acquainted with it in South Dakota.

Program: Dr. ROBERT D. RANDS: *Botanic gardens and plant industries of Java and Sumatra* (illustrated). Dr. RANDS traced briefly the early history of the famous government botanical garden at Buitenzorg, Java, and its importance in the establishment and development of the great European plantation industries of these islands. In the approximate order of their importance, the principal industries are sugar, rubber, tobacco, coconut products, coffee, tea, cacao, cinchona, kapoc, palm oil, and sisal.

In more recent years the planters' associations have established their own experiment stations, which at present number ten; three are devoted primarily to the study of tobacco, four to rubber, and one each to sugar, tea and cinchona. Despite the great importance of these "European cultures," the area they occupy is much smaller than that tilled by the natives. The latter, who in Java exceed thirty millions in number, are engaged largely in the cultivation of rice, maize, cassava, sweet potatoes, and other food crops.

Since 1905 the botanical gardens have formed a subdivision of the Department of Agriculture, which was established at that time. The main one, located at an elevation of 900 feet at Buitenzorg, was founded in 1814; in number of species and development it is probably the finest in the tropics. Within its grounds is the splendidly equipped Treub laboratory for visiting botanists, maintained by the government free of charge. There are in addition a large Cultuurtuin, or experiment station, and a selection station for annual crops. The acclimatization garden at Tjibodas, at an elevation of 4500 feet, and the vegetational zones of the magnificent virgin jungle on Mt. Gedeh, extending from the upper margin of the garden to the summit crater of the mountain at 10,000 feet, were described and illustrated. At Tjibodas, the government maintains a laboratory and lodging quarters for visiting biologists. In closing Dr. RANDS referred briefly to his studies of the disease of rubber and cinnamon in which he was engaged for three years as botanist in the Dutch Colonial Service at Buitenzorg.

J. H. BEATTIE: *Sweet potato nomenclature* (illustrated). From a utilitarian standpoint, the sweet potato is perhaps the most important member of the well known Morning Glory family. In the Torrid Zone and in the warmer parts of the Temperate Zones the plant is a perennial, but in the United States, where it has attained its greatest economic importance, it is treated as an annual.

Evidence exists that the sweet potato originated in the Western Hemisphere. De Candolle supports this view, but admits that there are important arguments in favor of its origin being Asiatic. Ovildo, writing in 1526, mentions the sweet potato as being freely cultivated and eaten by natives of Santo Domingo. Columbus, in presenting Queen Isabella with the choice products of the new world, did not fail to include the sweet potato. Chinese works written during the second or third century of our era mention other species of Convolvulaceae, hence we are compelled to believe that the plant has been cultivated for many centuries, and that its exact origin is in doubt. Its distribution is so general that it enters into the diet of a large portion of the people inhabiting the Torrid and Temperate Zones.

The sweet potato is second in importance of our vegetable crops, but previous to a few years ago it was looked upon as one of the most hazardous crops, as it was very difficult to keep, as storage methods for other vegetables were found to be unsuited to this crop. Satisfactory storage methods and storage houses have been devised, and it is now an easy matter to make the vegetable available for practically the entire year. Over 3000 so-called Government type storage houses with a capacity of about 12,000,000 bushels are now in use. Experimental work extending over a period of several years and summarized in Departmental Bulletin 1063, *Sweet potato storage studies*, shows that standard varieties of sweet potatoes can be kept in this type of house for periods of from 5 to 6 months with losses of less than 1 per cent from decay.

Sweet potato varieties and sweet potato nomenclature have been, and are, badly confused. About 1905, F. J. Tyler, worked out the basis of a key for the identification of sweet potato varieties based on:

I. Leaves deeply lobed or parted.
   1. Leaves with purple stain at base of leaf blade.
   2. Leaves without purple stain at base of leaf blade.

II. Leaves not deeply lobed or parted.
   1. Leaves with purple stain at base of leaf blade.
   2. Leaves without purple stain at base of leaf blade.

Other characters taken into account in connection with these main distinguishing characteristics were, stems purple or green, length of petioles, length of vines, size, shape and color of potatoes and color of flesh. The key is based mainly on botanical characters. For a full discussion reference is made to Departmental Bulletin 1921, entitled *Group classification and varietal description of American varieties of sweet potatoes*. Through the use of this key some 40 varieties have been recognized as such.

Adjournment was followed by a social hour.

ROY G. PIERCE, *Recording Secretary.*

SCIENTIFIC NOTES AND NEWS

At the Annual Meeting of the National Academy of Sciences held in Washington on April 23, 24, and 25, the following officers were elected for the ensuing year: *President*, A. A. MICHELSON; *Vice-President*, J. C. MERRIAM; *Foreign Secretary*, R. A. MILLIKAN; *Home Secretary*, DAVID WHITE; *Treasurer*, F. L. RANSOME.

The National Academy of Sciences elected to membership the following scientists: S. I. BAILEY, Harvard Observatory; J. H. BREASTED, University of Chicago; E. W. BROWN, Yale University; C. H. EIGENMANN, University of Indiana; YANDELL HENDERSON, Yale University; M. A. HOWE, New York Botanical Garden; MAX MASON, University of Wisconsin; E. D. MERRILL, Bureau of Science, Manila; E. L. OPIE, Washington University, St. Louis; LEONHARD STEJNEGER, U. S. National Museum; G. F. SWAIN, Harvard University; R. C. TOLMAN, California Institute of Technology; D. L. WEBSTER, Stanford University; F. E. WRIGHT, Geophysical Laboratory, Carnegie Institution of Washington; R. M. YERKES, National Research Council.

G. P. MERRILL, R. B. MOORE, and T. W. VAUGHAN were elected to membership in the American Philosophical Society at the meeting on April 21.

At the meeting of the Bureau of Standards Physics Club, on Monday, May 7, Dr. P. D. FOOTE lectured on *The nucleus of the atom.*

Mr. M. AUROUSSEAU, petrologist at the Geophysical Laboratory, Carnegie Institution of Washington, resigned on May 15 to join the scientific staff of the American Geographical Society, New York City.

Mr. K. C. HEALD, geologist, of the U. S. Geological Survey, is on leave of absence for several months to give a course of lectures on petroleum geology at the University of Chicago.

Dr. EDWARD P. HYDE, who organized the Nela Research Laboratories in 1908, and who for the past few years has occupied the position of director of research of the National Lamp Works of the General Electric Company, has tendered his resignation to take effect June 30. Dr. Hyde, who has been active in scientific and technical affairs for a number of years, has decided to take a prolonged rest abroad.

Dr. HUGH M. SMITH, formerly commissioner of fisheries, has been appointed fisheries adviser of the Siamese government.

Dr. A. C. SPENCER has been granted leave of absence for a month from the U. S. Geological Survey to do professional work in Cuba.